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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKETING
097517.579	03/02/00	HIRATSUKA	0059-1288-0

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EXAMINER
NGUYEN, H

ART UNIT	PAPER NUMBER
2812	

DATE MAILED: 05/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/517,579

Applicant(s)

HIRATSUKA ET AL.

Examiner

Ha T. Nguyen

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 5,6 and 11 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 9 is objected to because of the following informalities: in line 2, the limitation “the solute” does not have antecedent basis, substitution of “the solute contained in the organic electrolyte is a salt” with -- the organic electrolyte containing a salt-- is suggested. Appropriate correction is required.

Claim Rejections - 35 USC 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Morimoto et al. , U. S. Patent 4725927 (hereinafter Morimoto).

Morimoto discloses a method for producing an electric double layer capacitor, comprising the steps of: impregnating an element comprising positive and negative electrodes facing each other with a separator interposed between, with an organic electrolyte capable of forming an electric double layer on the surface of the electrodes to store electric charge them (See col. 1, line 65-col. 2, line 49, col. 3, lines 37-49, and col. 5, lines 25-68); and then applying a voltage to the element (see col. 4, lines 31-39), wherein said positive and negative electrodes are made of electrodes containing a carbonaceous material having a specific surface area of 2000m²/g (See col. 3, lines 37-46), and said organic electrolyte contains benzene or its chlorine derivative having at least one hydrogen atom of benzene substituted by a chlorine atom (See col. 2, lines 49-66); wherein a voltage of 2.8V is applied to the element at a temperature of 85C (see col. 4, lines 40-45); wherein the organic electrolyte containing a salt comprising tetraalkyl ammonium cation, and an anion of hexafluoroarsenate (see col. 3, lines 1-14); wherein the organic electrolyte contains a sulfolane solvent (see table 1).

Claim Rejections - 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2, 4, 7, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto.

Morimoto discloses substantially the limitations of claims 1-2, 4, 7, and 9-10, as shown above. It also discloses that the amount of chlorobenzene in the solvent mixture is from 10 to 70% by volume.

But it does not disclose expressly the claimed range of specific surface area of the electrode material, the claimed ranges of applied voltage and temperature, and the claimed amount of benzene or its chlorine derivative in the organic electrolyte.

However, because the prior art discloses ranges overlapping with the claimed range, a prima facie case of obviousness exists (See MPEP 2144.05). Besides, the examiner interprets that the prior art teaches an amount of chlorobenzene in a large range in term of volume, at least some of it will fall into the claimed range in term of weight.

Therefore, it would have been obvious to use Morimoto's teaching to obtain the invention as specified in claims 1-2, 4, 7, and 9-10.

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6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto in view of Tsushima Manabu, JP Patent 10041199 (hereinafter Tsushima).

Morimoto discloses substantially the limitations of claim 3, as shown above.

But it does not disclose expressly that the voltage is applied to the element in a dry atmosphere in an open condition .

However, it is well known in the art because Tsushima discloses that the voltage is applied before and after the case is sealed (See Solution). The combined teaching does not expressly disclose that the environmental atmosphere is dry. However it is logical to do so to obtain a well controlled environment and to reduce variation in quality of capacitors obtained.

A person of ordinary skill is motivated to modify Morimoto with Tsushima because when using Tsushima's open condition in the process of Morimoto the impurities and undesirable moisture from the components of the capacitor element can escape freely resulting in better quality capacitor.

Therefore, it would have been obvious to combine Morimoto with Tsushima to obtain the invention as specified in claim 3.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto in view of Grigortchak et al., US Patent 5351164 (hereinafter Grigortchak).

Morimoto discloses substantially the limitations of claim 8, as shown above.

But it does not disclose expressly the two step application of voltage to the capacitor element.

However, it is well known in the art because Grigortchak this feature (See col. 7, line 45- col. 8, line 49).

A person of ordinary skill is motivated to modify Morimoto with Grigortchak because when using Grigortchak's two step voltage application in the process of Morimoto an increase in capacitance and energy storage can be obtained (see Grigortchak et al., col. 8, lines 46-49).

Therefore, it would have been obvious to combine Morimoto with Grigortchak to obtain the invention as specified in claim 8.

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Allowable Subject Matter

8. Claims 5-6 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5-6 and 11 recite the step of maintaining the capacitor element under reduced pressure after the application of voltage.

This features in combination with the other elements of the claims is neither disclosed nor suggested by the prior art of record.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha Nguyen whose telephone number is (703)308-2706 . The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Neibling, can be reached on (703) 308-3325. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Patent Examiner



Ha Nguyen

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